

UECM1404 Theory of Interest Tutorial 2**TUTORIAL 2****UNIVERSITI TUNKU ABDUL RAHMAN**

Faculty:	FES	Unit Code:	UECM1404
Course:	AS, FM	Unit Title:	Theory of Interest
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- Q1. A loan of 12,000 is made at an interest rate of 8% compounded quarterly. The loan is to be repaid with three payments: 4,800 at the end of first year, 9,600 at the end of 6-th year, and the balance at the end of the tenth year. Calculate the amount of final payment.
- Q2. Brian deposits 100 into a bank account. His account is credited interest at a nominal rate of interest 7% convertible semiannually. At the same time, Peter deposits 100 into a separate account. Peter's account is credited interest at a force of interest of δ . After 5.0 years, the value of each account is the same. Calculate δ .
- Q3. At a certain interest rate the present value of the following two payment patterns are equal:
- 200 at the end of 5 years plus 500 at the end of 10 years.
 - 400.94 at the end of 5 years.
- At the same interest rate, 100 invested now plus 120 invested at the end of 5 years will accumulate to P at the end of 10 years. Calculate P .
- Q4. An investment of 1 will double in 15.0684 years at a force of interest $= \delta$. An investment of 1 will increase to 65.3996 in n years at a nominal rate of interest numerically equal to δ and convertible once every 2 years. Calculate n .
- Q5. Fund A accumulates at a rate of 10% convertible monthly. Fund B accumulates with a force interest $\delta_t = \frac{t}{5}$. At time $t = 0$ equal deposits are made in each fund. Find the next time that the two funds are equal.
- Q6. You invest 4000 today and plan to invest another 3000 two years from today. You plan to withdraw 7000 in n years and another 7000 in $n + 5$ years, exactly liquidating your investment account at that time. If the effective rate of discount is equal 6%, find n .